

Applic. No.: 10/601,639
Amdt. Dated June 29, 2004
Reply to Office action of April 14, 2004

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-19 remain in the application. Claim 8 has been amended.

In item 1 on page 2 of the above-identified Office action, the disclosure has been objected to because of an informality. Appropriate correction has been made.

In item 2 on page 2 of the above-identified Office action, claims 8 and 19 have been rejected as being indefinite under 35 U.S.C. § 112, second paragraph.

Appropriate correction has been made to claim 8. With regard to claim 19, the Examiner's requirement is not understood. Claim 19 clearly refers to the container as defined in claim 1 and this kind of claim language is commonly accepted in patent practice.

In item 5 on pages 2-3 of the above-mentioned Office action, claims 1-19 have been rejected as being unpatentable over Martin (US pat. No. 6,591,162 B1) in view of Huang et al. (US

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Pat. No. 6,060,992) and Hine et al. (US Pat. No. 6,591,160 B2)
under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

marking elements marking reference points of the container and disposed on said housing, said reference points having predefined positions relative to said second support members.

Claim 14 calls for, inter alia:

a detector for detecting reference point positions of the container; and

a localization device for computing a position of the container from detected reference point positions, said detector and said localization device control a positioning of the container in the loading/unloading position, if actual positions of the container deviate from predefined positions stored by the system and/or if the actual positions at other locations are non-predefined with a view to at least one direction or orientation.

It is the object of the invention of the instant application to allow, in a system for handling semiconductor product

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containers (like FOUPs) with a plurality of FOUP storage locations, safe handling of the FOUPs in case a FOUP is incorrectly positioned on a storage location.

A FOUP has triple support members engageable with kinematic coupling pins of a loadport. Automatic FOUP handling systems include storage locations with duplicates of the kinematic coupling pins on which the stored FOUPs rest. If a FOUP is incorrectly positioned on triple support pin duplicates, safe gripping and removing of the FOUP is not possible. Furthermore, according to prior art FOUPs cannot be removed automatically from shelves which do not have duplicates of support pin triple support members.

According to the invention of the instant application a FOUP includes marking elements for marking predefined reference points of the FOUP in a fixed position relative to the position of the support members of the FOUP. By detecting and locating the position of the marking elements (8) of a FOUP, the FOUP can be handled safely from a storage location. The FOUP including the marking elements can also be gripped and removed safely from a storage location (like a shelf), which does not have any duplicates of the kinematic coupling pins.

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The cited prior art does not disclose marking elements for marking reference point positions on a semiconductor product container, but rather marking elements for marking the identification number of an individual semiconductor product container. Martin mentions an "identification mark" in column 8, line 65. According to column 9, lines 2-7 of Martin, the identification of a wafer carrier may contain information on the type of the container and on whether the container is adaptable to a particular loadport or not. However, no marking elements marking a reference point position of a wafer carrier is disclosed. Huang et al. disclose a tag serving to identify an individual container (see column 6, lines 51-53; column 3, lines 9-10 and 12-14). According to column 4, line 40 of Huang et al., in the identification tag there may be a bar code to be scanned by a reader. A bar code cannot mark a local position (including x-position, y- position and z-position) of a reference point of a wafer container.

Hine et al. disclose marking elements for marking reference point positions in Figs. 6-9 and 12. However, the marking elements are mounted on a bottom side of a wafer target (see abstract, lines 6-9) rather than on a wafer container.

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The additional reference Iwasaki et al. (US Pat. No. 6,050,768), cited but not applied, also does not disclose any marking elements.

Accordingly, the cited documents do not refer to the problem of proper FOUP handling and positioning on kinematic coupling pin duplicates. The cited documents in particular do not teach how to safely handle a FOUP which is stored on a non-predefined storage location or which is improperly positioned on a storage location predefined by kinematic pin duplicates.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 and 14. Claims 1 and 14 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claims 1 or 14, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-19 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

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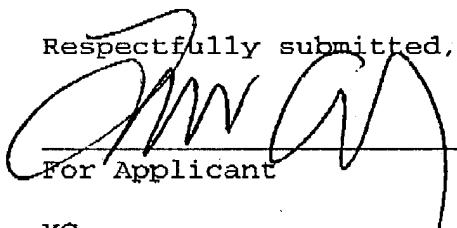
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If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,



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